Mark A. Jamison

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Education

2001 Ph.D., Economics, Warrington College of Business Admin., University of Florida
Dissertation: *Restructuring in Network Industries: Competition and Mergers in Telecommunications*
Major Advisor: Professor David Sappington

1980 M.S., Agricultural Economics, Kansas State University

1978 B.S., Agricultural Education, Kansas State University

Research Interests

Research focuses on the nexus between business strategy and government policies, primarily for network and information industries in an international context. Questions that capture my interest are those that break new ground, challenge conventional wisdom, or test conflicting points of view. Current research projects include studies of network ownership and entrepreneurship, strategic choices in network connectivity, effects of public and private ownership, best practices in regulatory policy, and leadership in public policy.

Professional Experience

1996 - Present Senior Lecturer, Warrington College of Business Administration, University of Florida, Gainesville, FL

- Director and Gunter Professor, Public Utility Research Center (PURC), 2004 to present
  Provide strategic direction. Develop and present international and U.S. training programs on the economics of telecommunications and on utility policy and regulation. Conduct research and publish papers on international utility and communications issues. Serve as Director of Telecommunications Studies. Served as Executive Director, 2002-2004. Held rank of Lecturer 1996-2009.

  Developed collaborations with the Vargas Foundation in Brazil, Associação Brasileira de Agências de Regulação (ABAR), Organisation of Caribbean Utility Regulators (OOCUR), National Association of Regulatory Utility Commissioners (NARUC), National Broadcasting and Telecommunications Commission of Thailand, Thammasat University, University of Toulouse, Pontificia Catholic University of Peru, University of Cape Town, Federal Communications Bar Association Florida Chapter, London Business School, NetTel@Africa, University of Botswana, University of Dar es Salaam, University of Fort Hare, University of South Africa, University of the West Indies, University of the Witwatersrand, University of Zambia, ITFlorida, U.S. Telecommunications Training Institute, and The World Bank.

- Associate Director, Business and Economic Studies, Center for International Business Education and Research, 1997 to 2004
  Developed grant applications and organized center under direction of center director. Developed collaborations with London Business School and others.

2015 – Present Visiting Scholar, American Enterprise Institute, Washington, D.C.
Research issues related to how information technologies affect economies and industries, and regulatory policies related to these industries.

2004 – 2010 Associate, Cambridge Leadership Associates, Cambridge, MA
Provide consulting and training on adaptive leadership, emphasizing the development of personal leadership skills and creating an adaptive organization that operates efficiently and effectively in a changing environment.

1993 - 1996 Manager, Regulatory Policy, Sprint, Kansas City, MO
Analyzed regulatory issues and made recommendations to senior management. Led development of Sprint's response to the Telecommunications Act of 1996. Coordinated interdisciplinary, inter-industry teams charged with preparing collaborative papers on regulatory issues. Researched industry economics; developed policies consistent with Sprint's business and financial objectives; and designed strategies for policy advocacy and implementation.

1987 - 1993 Staff, Iowa Utilities Board, Des Moines, IA
Head of Research, 1990 - 1993
Utility Specialist and Senior Utility Analyst, 1987 - 1990
Supervised engineers, economists, and others responsible for researching diverse issues. Initiated dialogue between European Commission policy makers and U.S. state regulators. Initiated information sharing between Japanese telecommunications policy makers and U.S. state regulators. Chaired National Association of Regulatory Utilities Commissioners (NARUC) Staff Subcommittee on Communications. Served on other national committees of state and federal regulatory staff. Formulated strategic plans for legislation, negotiations, and legal filings; applied financial models to forecast effects of major changes in telecommunications policy; and directed development of NARUC policy positions. Chaired the State Staff of the Federal/State Joint Conference on Open Network Architecture. Taught seminars on telecommunications at numerous universities.

1984 - 1987 Communications Economist, Kansas Corporation Commission, Topeka, KS

1980 - 1984 Teacher, Paola High School, Paola, KS

1980 Field Manager, Farm Management Association, University of Nebraska, North Platte, NE

Publications

Refereed Journal Articles

"Adding Dimension to Merger Analysis." University of Florida, Warrington College of Business Administration, *Journal of Competition Law and Economics*, 10.1093/joclec/nhv039, 2016 [with Janice Hauge].

"Lessons from the Evolution of Merger Guidelines in the United States." *Journal of Contemporary Management*, 4(2):59-74, 2015 [with Janice Hauge].

"Motivating Regulated Suppliers to Assess Alternative Technologies, Protocols, and Capital Structures." *International Journal of Industrial Organization* 37:13-22, 2014 [with David Mandy and David Sappington].

"Do Common Carriage, Special Infrastructure, and General Purpose Technology Rationales Justify Regulating Communications Networks?" *Journal of Competition Law and Economics* 10(2):475-493, 2014 [with Janice Hauge].

"Public Utilities Corporate Governance." *Journal of Management and Governance* 17(4): 827-833, 2013 [with Marcello Martinez and Malin Tillmar].

"Who Do Start-up Firms Imitate? A Study of New Market Entries in the CLEC Industry." *Journal of Small Business Management* 51(4):525-538, 2013 [with Richard Gentry and Thomas Dalziel].

"Oust the Louse: Does Political Pressure Discipline Regulators?" *Journal of Industrial Economics* 60(2):299-332, 2012 [with Janice Hauge and James Prieger].

"Business Separation in Telecommunications: Lessons from the U.S. Experience." *Review of Network Economics*, 9(1): Article 3, 2010 [with James Sichter].

"Effects of Using Specific versus General Data in Social Program Research." *Applied Economics,* 42(13):1627-1639, 2010 [with Janice Hauge].

"A Consideration of Telecommunications Market Structure in the Presence of Municipal Provision: The Case of U.S. Cities." *Review of Industrial Organization,* 34(2):135-152, 2009 [with Janice Hauge and R. Todd Jewell].

"Broadband and Contributions to Economic Growth: Lessons from the U.S. Experience." *Telecommunications Policy,* 33(10-11): 575-581, 2009 [with Lynne Holt].

"Whose Call Is It? Targeting Universal Service to Low-Income Households' Telecommunications Preferences." *Telecommunications Policy,* 33(3-4): 129-145, 2009 [with Janice Hauge and Eric Chiang].

"Discounting Telephone Service: An Examination of Participation in the Lifeline Assistance Program Using Panel Data." *Information Economics and Policy*, 20(2): 135-149, 2008 [with Janice Hauge and R. Todd Jewell].

"Bureaucrats as Entrepreneurs: Do Municipal Telecommunications Providers Hinder Private Entrepreneurs?" *Information Economics and Policy,* 20(1): 89-102, 2008 [with Janice Hauge and Richard Gentry].

"Participation in Social Programs by Consumers and Companies: A Nationwide Analysis of Participation Rates for Telephone Lifeline Programs." *Public Finance Review*, 35(5):606-25, 2007 [with Janice Hauge and R. Todd Jewell].

"Competition in Wireless: Spectrum, Service and Technology Wars." *Telecommunications Policy*, 27(5-6): 319-24, 2003 [with Len Waverman and Niall Levine].

"Rivalry through Alliances: Competitive Strategy in the Global Telecommunications Market - A Reply to Curwen." *European Management Journal*, 20(1): 95-97, 2002 [with Sylvia Chan-Olmsted].

"Rivalry through Alliances: Competitive Strategy in the Global Telecommunications Market." *European Management Journal*, 19(3): 317-31, 2001 [with Sylvia Chan-Olmsted].

"Emerging Patterns in Global Telecommunications Alliances and Mergers." *Industrial and Corporate Change*, 7(4): 695-713, 1998.

"Estimating Costs for Universal Service Obligations." *Telecommunications Journal of Australia*, 47(1): 51-58, 1997.

"General Conditions for Subsidy-Free Prices." *Journal of Economics and Business*, 48: 371-85, 1996.

Books

Industry Structure and Pricing: The New Rivalry in Infrastructure, Boston: Kluwer Academic Publishers, 1999.

Infrastructure Regulation and Market Reform: Principles and Practice, ed. Margaret Arblaster. Canberra: Australian Competition and Consumer Commission and the Public Utility Research Center, 1998.

Universal Service for Schools and Libraries: A Handbook for Planning and Funding Technology, Dallas: GT Press, 1997 [with Patricia Figliola Lewis].

Chapters in Books

"Consumer Usage of Broadband Internet Services: An Analysis of the Case of Portugal." In *Adoption, Usage, and Global Impact of Broadband Technologies: Diffusion, Practice and Policy*, ed. Yogesh K. Dwivedi, 198-213. Hershey, PA: IGI Global, 2011 [with Janice Hauge and Mircea Marcu].

"Liberalization and Regulation of Telecoms, Electricity, and Gas in the United States." In *International Handbook of Network Industries: The Liberalization of Infrastructure*, ed. Matthias Finger and Rolf W. Künneke, 366-383. United Kingdom: Edward Elgar, 2011.

"Dumbing Down the Net: A Further Look at the Net Neutrality Debate." In *Internet Policy and Economics: Challenges and Perspectives*, ed. William Lehr and Lorenzo Maria Pupillo, 57-72. New York: Springer, 2009 [with Janice Hauge].

"Towards New Regulatory Regimes in Globalized Infrastructure." In *Internationalization of Infrastructures*, ed. Jean-François Auger, Jan Jaap Bouma, and Rolf Künneke, 257-273. Netherlands: Economics of Infrastructures, Delft University of Technology, 2009.

"Regulation: Price Cap and Revenue Cap." In *Encyclopedia of Energy Engineering and Technology Vol. 3*, ed. Barney Capehart, 1245-51. New York: CRC Press, Taylor and Francis, 2007 (updated 2014).

"Regulation: Rate of Return." In *Encyclopedia of Energy Engineering and Technology Vol. 3*, ed., Barney Capehart, 1252-57. New York: CRC Press, Taylor and Francis, 2007 (updated 2014).

"The 1st Academic Conference on the Auspicious Occasion of His Majesty the King's 80th Birthday Anniversary: The Importance of Telecommunications Development." In *NTC Annual Review 2007 Vol. 1,* 58-87. Bangkok: National Telecommunications Commission of Thailand, 2007.

"Effects of Prices for Local Network Interconnection on Market Structure in the U.S." In *Global Economy and Digital Society,* ed. Erik Bohlin, Stanford L. Levin, Nakil Sung, and Chang-Ho Yoon, 301-20. Amsterdam: Elsevier Science, 2004.

"Microsoft: Federalism and Internationalism in Antitrust." In *Munich Series on European and International Antitrust Law, No. 1: The Future of Transnational Antitrust*, ed. J. Drexl, 259-68. Berne: Staempfli Publishers, Ltd and The Hague: Kluwer International, 2003 [with Clifford Jones].

"The Role of Costing as a Ratemaking Tool in an Environment of Dynamic Change." In *The Institutionalist Approach to Public Utilities Regulation*, ed. Edythe Miller and Warren J. Samuels, 250-75. East Lansing: Michigan State University Press, 2002.

"Global Rivalry in Infrastructure." In *Private Initiatives in Infrastructure: Priorities, Incentives, and Performance*, ed. Masatsugu Tsuji, Sanford Berg, and Michael G. Pollitt, 299-349. Chiba: Institute for Developing Economies, 2000 [with Janice Hauge].

"Does Practice Follow Principle? Applying Real Options Principles to Proxy Costs in U.S. Telecommunications." In *Real Options: The New Investment Theory and its Implication for Telecommunications Economics*, ed. James Alleman and Eli Noam, 49-75. Boston: Kluwer Academic Publishers, 1999.

"Business Imperatives." In *The New Global Telecommunications Industry & Consumers*, ed. Jorge Schement, 19-32. University Park: Penn State University's Institute for Information Policy, 1999 (updated 2001).

"Regulatory Techniques for Addressing Interconnection, Access, and Cross-Subsidy in Telecommunications." In *Infrastructure Regulation and Market Reform: Principles and Practice*, ed. Margaret Arblaster and Mark A. Jamison, 113-29. Canberra: Australian Competition and Consumer Commission and the Public Utility Research Center, 1998.

"Costing Issues with Expanded Interconnection." In *Annual Review of Communications, National Engineering Consortium Vol.46*, 121-27. Chicago: National Engineering Consortium, 1992.

"The Usefulness of Marginal and Incremental Costs in Telephone Regulation." In *Proceedings of the NRRI Symposium on Telephone Cost of Service*, Columbus: National Regulatory Research Institute, 1990 [with Dennis Nagel].

"Developing Regulatory Costing Methodologies for Evolving Markets." In *Proceedings of the Bellcore and Bell Canada Industry Forum on Telecommunications Costing in a Dynamic Environment*. Montreal: Bell Canada and Livingston: Bellcore, 1989.

"Applying Part X Allocations to Intrastate Costs." In *Proceedings of the Fourteenth Annual Rate Symposium*, ed. James Fischer, J. Robert Malko, and Richard Wallace, 305-23. Columbia: University of Missouri, 1988.

"New Techniques for Segregating Costs between Regulated and Unregulated Services and between Different Common Carrier Services." In *New Regulatory and Management Strategies in a Changing Market Environment*, ed. Harry M. Trebing and Patrick C. Mann, 252-80. East Lansing: Institute of Public Utilities, 1987 [with David Brevitz].

Book Reviews

Foundations of Communications Policy: Principles and Process in the Regulation of Electronic Media, (by Philip M. Napoli, Cresskill, New Jersey: Hampton Press, Inc., 2001.) *The International Journal on Media Management*, 3(4): 234-36, 2001.

Competition in Telecommunications, (by Jean-Jacques Laffont and Jean Tirole, Cambridge, MA: The MIT Press, 2000.) *Journal of Media Economics*, 13(4): 261-65, 2000.

Non-Refereed Journal Articles

"The Economic and Political Realities of Regulation: Lessons for the Future." *Energy Journal Quarterly* 3(3): 17-20, 2015.

"Reset for Regulation and Utilities: Leadership in a Time of Constant Change." *Utility Horizons* Q4:57-60, 2014 http://www.nxtbook.com/nxtbooks/utilityhorizons/2014q4/#/56 [with Araceli Castaneda].

"Boomers: Outdated or Wise? Millenials: Innovative or Naïve?" *Utility Horizons* Q2:36-38, 2014 http://www.nxtbook.com/nxtbooks/utilityhorizons/2014q2/#/64 [with Araceli Castaneda].

"Execution and Leadership: Fulfilling Conflicting Responsibilities in Utility Regulation." *The Electricity Journal*, 27(3):67-76, 2014 [with Araceli Castaneda].

"Applying Public Utility, Common Carrier, and Essential Facility Policies to Google." *The Journal of Law, Economics & Policy* 9(2): 223-250, 2013.

"Electricity, Gas, Google? Why Google Is Not A Utility." Competition Law 360, May 4, 2012.

"Reset for Regulation and Utilities: Leadership for a Time of Constant Change." *The Electricity Journal*, 24(4): 86-93, 2011 [with Araceli Castañeda].

"Is There Need for the Internationalization of Regulation?" *Network Industries Quarterly*, 11(2): 14-16, 2009.

"The Regulator's Challenge: Providing Stability While Leading Change." *Network,* (30): 2-6, 2008.

"Federal Regulation and Competitive Access to Multiple-Unit Premises: More Choice in Communications Services?" *Journal on Telecommunications and High Technology Law*, 6(2): 425-454, 2008 [with Lynne Holt].

"Re-evaluating FCC Policies Concerning the Lifeline and Link-Up Programs." *Journal on Telecommunications and High Technology Law*, 5(2): 393-412, 2007 [with Lynne Holt].

"Leadership and the Independent Regulator." *GITAM Journal of Management*, 5(1): 1-16, 2007. [Revision of World Bank Policy Research Working Paper 0-3202, 2005].

"Using Leadership to Make Policy Work." *Effective Executive*, 8(10): 79-82, 2006.

"Defining the New Policy Conflicts." *Public Utilities Fortnightly*, 144(7): 36-40, 2006 [with Paul Sotkiewicz].

"Getting on the Balcony: Leadership Challenges in Regulation." *The Electricity Journal*, 18(10): 43-52, 2005 [with Robert Rowe and Brett Perlman].

"Measuring and Mitigating Regulatory Risk in Private Infrastructure Investment." *The Electricity Journal*, 18(6): 36-45, 2005 [with Lynne Holt and Sanford Berg].

"Survival Guide for the Independent Regulator." *Caribbean Regulatory Research Centre*, 2004.

"Competition in Networking: Research Results and Implications for Further Reform." *Michigan State Law Review*, 2002(3): 621-40, 2002.

"Issues and Strategies in Latin American Telecommunications: The Global E-economy." In *International Engineering Consortium Annual Review of Communications*, 54, 263-270, 2001 [with Sanford Berg].

"Why Johnny Can't Do Warp Ten." *New Millennium Research Council E-Zine*, February 2001, http://www.newmillenniumresearch.org/ezine0102/ezine0102.html.

"Lessons from the World's Utility Regulators." *National Association of Regulatory Utility Commissioners Bulletin*, April 2000.

"Soluciones Comprobadas Ofrecidas en Entrenamiento Para Reguladores." *Potencia*, 18(4): 18-21, Julio-Agosto 1998 ("Key Lessons on Electricity Regulation: What Regulators Have Taught Us." *Potencia*, 18(4): 18-21, July-August 1998) [with Sanford Berg and Janice Hauge].

"Getting Ready for Information Space." The NetDay Wire, http://www.schoolwire.org, June 1997 [with Patricia Figliola Lewis].

"Let the Customer Decide." *The Heller Report: Internet Strategies for Education Markets*, 2(7): 8-9, January 1997.

"A Competitive Framework for Pricing Interconnection in Global Telecommunications Markets." *Denver Journal of International Law and Policy*, 23(3): 513-33, 1995.

"So Why Does Broadband Take So Long?" *Thor's Hammer*, August 1994.

"Social Contract Regulation: Have We Been This Way Before?" National Regulatory Research Institute, *NRRI Quarterly Bulletin*, 9: 299-310, July 1988.

Working Papers

"Economic Scholars Summary of Economic Literature Regarding Title II Regulation of the Internet," Comments filed with the Federal Communications Commission, July 17, 2017 [with Michelle P. Connolly, Gerald Faulhaber, Janice Hauge, and James Prieger].

"Stakeholders and Power Relations in Regulation," University of Florida, Warrington College of Business, PURC Working Paper, 2017 [with Araceli Castaneda].

"Emerging Institutional Weaknesses in US Regulation?" University of Florida, Warrington College of Business, PURC Working Paper, 2016.

"Identifying Market Power in Times of Constant Change." University of Florida, Warrington College of Business, PURC Working Paper, 2016 [with Janice Hauge].

"Beyond net neutrality: Policies for leadership in the information, computing, and network industries." University of Florida, Warrington College of Business, PURC Working Paper, and American Enterprise Institute Working Paper, June 14, 2016 [with Roslyn Layton].

"Thoughts on Radio Spectrum Policies for an Adaptive Communications Market in Thailand." University of Florida, Warrington College of Business Administration, PURC Working Paper. 2015.

"The Essential DNA of Electricity Regulation." University of Florida, Warrington College of Business Administration, PURC Working Paper, 2015 [with Araceli Castaneda and Michelle Phillips].

"Considerations for the Design and Transformation of Regulatory Systems." University of Florida, Warrington College of Business Administration, PURC Working Paper, 2014 [with Araceli Castaneda and Michelle Phillips].

"Lessons from the Evolution of Merger Guidelines in the United States." University of Florida, Warrington College of Business Administration, PURC Working Paper, 2014 [with Janice Hauge].

"Defining Relevant Markets in Evolving Industries." University of Florida, Department of Economics, PURC Working Paper, 2014.

"Evaluation of Florida's Energy Efficiency and Conservation Act." University of Florida, Department of Economics, PURC Working Paper, 2012 [with Mary Galligan, Lynne Holt, Theodore Kury, Edward Regan, Pierce Jones, Jennison Kipp, Nicholas Taylor, and Rajinash Barua].

"Rules for Renewables: Aligning Roles and Incentives for Renewable Energy." University of Florida, Department of Economics, PURC Working Paper, 2012 [with Sanford Berg and Theodore Kury].

"Should Google Search be Regulated as a Public Utility?" University of Florida, Department of Economics, PURC Working Paper. 2012.

"Innovation, Resource Constraints, and Mergers in Network Industries." University of Florida, Department of Economics, PURC Working Paper, 2011 [with Janice Hauge].

"Strategic Planning for Florida Governmental Broadband Capabilities." University of Florida, Department of Economics, PURC Working Paper, 2011 [with David Brevitz, Herb Cash, Mary Galligan, Lynne Holt, and Theodore Kury].

"Analyzing Telecommunications Market Competition: A Comparison of Cases." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Sanford Berg and Liangliang Jiang].

"Analyzing Telecommunications Market Competition: Foundations for Best Practices." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Janice Hauge].

"Methods for Increasing Competition in Telecommunications Markets." University of Florida, Department of Economics, PURC Working Paper, 2009.

"What's in a Name? Analyzing the Evolving Concept of Broadband." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Janice Hauge].

"Adapting Infrastructure Regulation: What Should Be the Boundaries of Coercive Power?" University of Florida, Department of Economics, PURC Working Paper, 2009.

"The Changing Electric System Architecture." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Lynne Holt, Theodore Kury, and Sanford Berg].

"Scientific Research Project Coordinated by ICP-ANACOM and ANATEL with a Focus on Mobile Broadband: Final Report." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Janice Hauge and Mircea Marcu].

"Challenges Affecting Broadband's Contributions to U.S. Economic Growth." University of Florida, Department of Economics, PURC Working Paper, 2009 [with Lynne Holt].

"Broadband and Contributions to Economic Growth: The U.S. Experience and Future Direction." University of Florida, Department of Economics, PURC Working Paper, 2008 [with Lynne Holt].

"Will Packets Wait? The Effects of Net Neutrality on Network Performance and Consumers." University of Florida, Department of Economics, PURC Working Paper, 2008 [with Janice Hauge].

"More Than a Lifeline: Low-Income Households' Telecommunications Preferences." University of Florida, Department of Economics, PURC Working Paper, 2008 [with Janice Hauge and Eric Chiang].

"Getting What You Pay For: Analyzing the Net Neutrality Debate." University of Florida, Department of Economics, PURC Working Paper, 2008 [with Janice Hauge].

"A Review of Multi-sector Regulatory Agencies in five West African countries: Cape Verde, Gambia, Guinea-Bissau, Niger, and Senegal" prepared for the World Bank, October 2008. [with Judith Hellerstein, Sanford Berg, Sonia Jorge, and Jean-Pierre Chamoux].

"Subsidies and Distorted Markets: Do Telecom Subsidies Affect Competition?" University of Florida, Department of Economics, PURC Working Paper, 2007 [with Eric Chiang and Janice Hauge].

"Cost Concepts for Utility Regulators." University of Florida, Department of Economics, PURC Working Paper, 2006.

"Making Telephone Service Affordable for Low-Income Households: An Analysis of Lifeline and Link-Up Telephone Programs in Florida." University of Florida, Department of Economics, PURC Working Paper, 2006 [with Lynne Holt].

"Resolving Utility Issues Facing Florida." University of Florida, Department of Economics, PURC Working Paper, 2006.

"Towards an Economic Model of Leadership: Leading Adaptive Change." University of Florida, Department of Economics, PURC Working Paper, 2006.

"Motivations Behind Low-Income Households Bypass of Support for Universal Service." University of Florida, Department of Economics, PURC Working Paper, 2005 [with Justin Brown].

"Mechanisms to Mitigate Regulatory Risk in Private Infrastructure Investment: A Survey of the Literature." University of Florida, Department of Economics, PURC Working Paper, 2005 [with Lynne Holt and Sanford Berg].

"Explaining CLEC Survival through Lock-in and Diseconomies of Size." University of Florida, Department of Economics, PURC Working Paper, 2005 [with Richard Gentry].

"Trait-based Imitation among Entrepreneurial Market Entrants." University of Florida, Department of Economics, PURC Working Paper, 2005 [with Richard Gentry].

"Market Behavior and Survival of Entrepreneurial Firms - How Do Rookies Compete?" University of Florida, Department of Economics, PURC Working Paper, 2005 [with Richard Gentry].

"Effects of Industry Concentration on Quality Choices for Network Connectivity." University of Florida, Department of Economics, PURC Working Paper, 2004.

"Quality-Improving Portfolio Effects in European Union Competition Policy." University of Florida, Department of Economics, PURC Working Paper, 2003 [with Clifford Jones].

"Cross-Market Effects of Network Externalities." University of Florida, Department of Economics, PURC Working Paper, 2002.

"Predatory Pricing in a Network Industry with Multiple Markets." University of Florida, Department of Economics, PURC Working Paper, 2001.

"Strategies for Latin America in the Global E-economy." Working Paper for the Business and Investment Strategies in Latin American Infrastructure Markets Conference, 2000.

"Key Issues in Communications Policy in Latin America." Working Paper for the Latin American Forum on Communications, 2000.

"Megamergers: Good for Competition?" Working Paper for Issue Dynamics Inc, 1999.

"Understanding the Changing Telecommunications Industry." Working Paper for Issue Dynamics Inc, 1999.

"Agency Problems in Industries Undergoing Fundamental Change: Applications to Telecommunications." University of Florida, Department of Economics, PURC Working Paper, 1998.

"Telecommunications Mergers: Impacts on U.S. Customers and Markets." Working Paper for the National Association of Regulatory Utility Commissioners (NARUC) Annual Convention, 1998.

"Executive Summary: Emerging Patterns in Global Telecommunications Alliances and Mergers." Working Paper for the National Association of Regulatory Utility Commissioners (NARUC) Annual Convention, 1998.

"International Survey of Interconnection Policies." Research Report for BellSouth International, March 31, 1998; updated September 1, 1998.

"Universal Service Reform in Florida." Working Paper for the Florida House of Representatives Committee on Utilities and Telecommunications Workshop on Universal Service and Related Issues, January 1998.

"International Survey of Interconnection Policies: A Preliminary Report." Research Report for BellSouth International, 1997.

"A Further Look at Proper Cost Tests for Natural Monopoly." University of Florida, Department of Economics, PURC Working Paper, 1997.

"Performance of Infrastructure Regulatory Policies: An Overview." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997 [with Chunrong Ai, Sanford Berg, and David Sappington].

"Market Reform: Regulation of Market Structure." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997 (revised 1998).

"How the Federal Communications Commission has Conducted Radio Spectrum Auctions in the U.S." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997.

"Price Regulation in Telecommunications." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997 (revised June 1997).

"Pricing Objectives and Options in Network Industries." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997 (revised 1998).

"Competitive Pricing Issues—Interconnection and Social Obligations." Working Paper for International Training Program on Utility Regulation and Strategy, 1997 (revised 1998).

"Sectoral Issues in Rate Structure—Telecommunications." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997 (revised 1998).

"Financial Techniques for Regulators: Financial and Other Information in Utility Regulation." Working Paper for the International Training Program on Utility Regulation and Strategy, 1997.

"Effects of Using a More General Game Theoretic Framework for Analyzing Market Structure and Pricing Issues." 1995.

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Editorials and Blog Posts

"Are tech firms too big to let live?" *TechPolicyDaily.com*, August 3, 2017.

"Tech is destroying jobs: And it's a good thing, too," *TechPolicyDaily.com*, July 24, 2017.

"Net neutrality: What the economics says," *TechPolicyDaily.com*, July 18, 2017.

"How long will Lifeline be allowed to keep failing?" *TechPolicyDaily.com*, July 10, 2017.

"Three fears that hamper tech progress" *TechPolicyDaily.com*, June 27, 2017.

"Should cities compete with their ISPs? University of Pennsylvania study warns taxpayers to beware," *TechPolicyDaily.com*, June 13, 2017.

"Why is telecommunications taxed like a sin?" *TechPolicyDaily.com*, May 25, 2017.

"Why repealing Title II will benefit consumers and the economy," *TechPolicyDaily.com*, April 27, 2017.

"Drama vs. analysis: Can we save regulation at the FCC?" *TechPolicyDaily.com*, April 19, 2017.

"The Great Media Divide: News business models on the right and left perpetuate our political divide," *US News and World Report*, April 12, 2017.

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"Rural broadband deployment: The market-oriented way," *TechPolicyDaily.com*, March 30, 2017.

"Will tech firms save us from fake news?" *TechPolicyDaily.com*, March 9, 2017.

"It's time bring US broadband subsidies up to world standards," *TechPolicyDaily.com*, February 24, 2017.

"Help the poor by dropping Lifeline," *TechPolicyDaily.com*, February 15, 2017.

"Can we modernize the FCC?" *TechPolicyDaily.com*, February 2, 2017.

"Should we want a bipartisan FCC?" *TechPolicyDaily.com*, January 23, 2017.

"Let's rethink market power in tech." *TechPolicyDaily.com,* November 28, 2016.

"Restoring effective leadership at the FCC." *TechPolicyDaily.com*, November 15, 2016.

"Why Secretary Clinton's broadband subsidies will fail." *TechPolicyDaily.com*, November 2, 2016.

"ICT essentials for rebuilding fragile states." *Information and Communications for Development (IC4D)*, October 25, 2016.

"Do we need the FCC?" *TechPolicyDaily.com*, October 21, 2016. Reprinted in *Radio + Television Business Report*, October 24, 2016.

"How ICT lifts up the victims of war." *TechPolicyDaily.com*, October 6, 2016.

"Can the Brits save the FCC?" *TechPolicyDaily.com*, October 3, 2016.

"Coming soon: The FCC chairman's set-top box app." *TechPolicyDaily.com*, September 12, 2016.

"Tech for president!" *TechPolicyDaily.com*, August 23, 2016.

"Adaptive regulation: Africa finds a third way on telecom regulation." *TechPolicyDaily.com*, August 8, 2016.

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"4 ways Clinton tech plan would destroy US tech leadership." *TechPolicyDaily.com*, July 7, 2016.

"Five questions Congress should ask the FCC commissioners on July 12." *TechPolicyDaily.com*, June 29, 2015.

"It's time to move beyond net neutrality." *TechPolicyDaily.com*, June 15, 2016.

"Keep Calm and Let Platforms Carry On" *TechPolicyDaily.com*, June 7, 2016.

"Can Netflix save Europe's film industry? The European Commission hopes so." *TechPolicyDaily.com*, June 1, 2016.

"Data dysfunction: Time to fact-check the set-top box arguments." *TechPolicyDaily.com*, May 16, 2016.

"Five ways to cripple tech (and the US economy)." *TechPolicyDaily.com*, April 26, 2016.

"White House weighs in on set-top boxes — and starts a witch hunt in the process." *TechPolicyDaily.com*, April 19, 2016.

"The cost of regulating special access: A 55 percent investment decrease." *TechPolicyDaily.com*, April 12, 2016.

"What are next steps for Congress on net neutrality?" *TechPolicyDaily.com*, April 1, 2016.

"Five ways to cripple the FCC." *TechPolicyDaily.com*, March 15, 2016.

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"A dangerous tech policy narrative emerges: Decreasing choice to increase freedom." *TechPolicyDaily.com*, February 11, 2016.

"Wheeler channels Bernie to regulate set-top boxes." *TechPolicyDaily.com*, February 2, 2016.

"Three things economists wish the FCC knew about broadband markets." Economic Policy Vignette 2015.2.4, Georgetown University Center for Business & Public Policy, January 2016. Adapted from *TechPolicyDaily.com*, January 13, 2016.

"Resolve to stop hurting the poor." *TechPolicyDaily.com*, January 4, 2016.

"Net neutrality is choking innovation." *TechPolicyDaily.com*, December 8, 2015.

"Innovation at the edge depends on innovation at the core." *TechPolicyDaily.com*, November 12, 2015.

"Governments have gone to war on Internet freedom." *TechPolicyDaily.com*, November 9, 2015.

"US Broadband policy is about neutering the excellent." *Real Clear Markets*, September 28, 2015.

"FCC regulations should be free of politics." *The Gainesville Sun*, September 6, 2015.

"Title II's real-world impact on broadband investment." *TechPolicyDaily.com* September 1, 2015.

"Google case highlights why traditional competition law is a bad fit for tech." *TechPolicyDaily.com* August 17, 2015.

"Failure to Connect." *US News and World Report* August 6, 2015.

"On the verge of a new IT era, regulators are tightening the reins on innovation." *TechPolicyDaily.com* August 6, 2015.

"How and why to de-politicize the FCC." *TechPolicyDaily.com* July 21, 2015.

"The right to be forgotten: There's a market for that." *TechPolicyDaily.com* July 9, 2015.

"Looking for leadership in the Internet of Things? It's not where you think." *TechPolicyDaily.com* July 1, 2015.

"Nation's Poor to the FCC: 'We're Way Ahead of You.' " *InsideSources* June 23, 2015.

"How to save energy utilities: Allowing innovation, risk-taking, and profits." *TechPolicyDaily.com* June 1, 2015.

"Graphing broadband adoption around the world." *TechPolicyDaily.com* May 16, 2015.

"Google favors its own content and that might just be a good thing." *TechPolicyDaily.com* April 17, 2015.

"Wanted: More entrepreneurs." *TechPolicyDaily.com* March 30, 2015.

"Limitless innovation? Only if the FCC gives permission." *TechPolicyDaily.com* March 18, 2015.

"How much profit is too much? Tech companies and the surprising truth about their returns." *TechPolicyDaily.com* February 27, 2015.

"What Happened to Independence and Transparency at the FCC?" *InsideSources* February 24, 2015; *Austin American-Statesman* February 27, 2015.

"Applying Title II without embarrassment." *TechPolicyDaily.com* February 24, 2015.

"The importance of regulatory humility." *TechPolicyDaily.com* February 18, 2015.

"What Google Fiber is teaching us about vertical integration." *TechPolicyDaily.com* February 3, 2015.

"Net neutrality: Déjà vu all over again." *TechPolicyDaily.com* January 13, 2015.

"The FCC's powers of taxation: A signal of bad governance." *TechPolicyDaily.com* December 2, 2014.

"In praise of gatekeepers: The growth of apps and decline of the web." *TechPolicyDaily.com* November 20, 2014.

"Perhaps we could learn a broadband policy lesson from the Aussies." *TechPolicyDaily.com* September 25, 2014.

"A Leadership Deficit." Published in *The Gainesville Sun*, 2011 [with Araceli Castañeda].

"The Net is Never Neutral." Published in *The Gainesville Sun*, *The Sun-Sentinel*, *The Fort Meyers News-Press*, *The Panama City News-Herald*, and *The Tallahassee Democrat*, 2009.

Editorials for PURC publications: *Thinking Critically about Research, On Research, Real Options, A Fourth Branch?, How do You Know?, Information Rules (Parts I and II),* and *Policy Essentials*.

Case Studies

Reverse Auctions for Universal Service, July 2011.

Expanding Cloud Computing – Parts A, B, and C, July 2011.

Analyzing Telecommunications Finances in Brazil – Parts A and B, December 2010 [Part A with Amanda Bowe and Part B with Krittipohn Sriyabhandha].

Pricing Radio Spectrum, September 2007.

Auctions for Radio Spectrum — Parts A, B, C, D, E, and Teaching Notes, August 2007 [with Liangliang Jiang].

The Nigerian Auction of the 2G Spectrum — Parts A, B, and C, August 2007 [with Andrew Nahlik].

Disbanding the Maryland PSC, July *2006* [with Robert Gee, Robert Rowe, and Brett Perlman].

Governor Calls for State and Federal Investigation into Recent Spikes in Natural Gas Prices, January 2006 [with Brett Perlman and Robert Rowe].

Interconnection Simulation, June 2005.

Guatemala Case Study in Telecom Liberalization — Parts A, B, and C, May 2002.

The Aftermath of Entry, August 2001.

The Interconnection Dispute, August 2001.

The Terminating Traffic Dispute (English) and *Un Conflicto acerca de la Finalización de Tráfico* (Spanish), March 2001 [with David Brevitz and Tahio Mendez de Requena].

Rate Structure: Telecommunications Rate Structure Issues, Case Studies in Interconnection Agreements, Uganda and Sweden, January 1998.

Rate Structure: Telecommunications Rate Structure Issues, Case Studies in Tariffs, Canada and the U.S., January 1998.

Market Reform: Case Studies in Energy and Telecommunications, January 1998 (revised 1999, 2001).

Case Study of Telecommunications Pricing in Sri Lanka, January 1997 (revised 1999).

Choosing Regulatory Priorities, January 1997 (updated June 1997 and December 2000).

Methods of Incentive Regulation: Design and Implementation of Hybrid Systems, January 1997 (revised January 2006).

Methods of Incentive Regulation: Principles of Rate of Return Regulation, January 1997 (revised 2005).

Teaching Experience

Gordon Institute of Business Science, *Digital Multimedia Management and Regulation*, University of Pretoria, 2012.

Management 6636, *Global Strategic Management*, University of Florida, 2011.
Taught international business strategy to students seeking a Master of Science in Management or Master of Arts in International Business.

Kennedy School of Government, Harvard University. Assisted in teaching *The Art and Practice of Leadership Development*, May 2010.

University of Florida 2007 International Educator of the Year Award, November 2007.
Received the award in recognition of outstanding international endeavors in support of UF's strategic goal to internationalize the campus and curriculum.

Course on *International Leadership: Adapting Business and Governments*, March 2007.
Taught UF undergraduates as part of a UF-sponsored Study Abroad Program at the Paris Research Center, Paris, France.

Graduate course on *Research in Infrastructure Regulation*, 2005 - 2013.
Taught doctoral students in economics most recent trends in research in utility regulation.

Curriculum development for University of West Indies, 2004.
Developed courses on telecommunications interconnection regulation and pricing.

Curriculum development for NetTel@Africa, 2001-2004.
Assisted the University of Botswana, African Advanced Level Telecommunications Institute (AFRALTI), University of Dar es Salaam, University of Fort Hare, University of South Africa, University of Western Cape, University of Witwatersrand, and University of Zambia in writing post-baccalaureate and master's degree curricula on telecommunications policy. Developed interactive spreadsheets to simulate alternative forms of regulation.

Economics 4934/3429 *Global Telecommunications Strategy*, University of Florida, 2000-2002.
Developed and taught this senior-level class for business and non-business majors. Used case studies and projects to examine international business strategies for communications businesses. Student evaluations rated my teaching at 4.74 on a scale from 1 (lowest) to 5 (highest). My undergraduate students received four of the six awards in an international business competition against MBA students from two other Florida universities.

Training/Workshop Experience

2017	Delivered course "Adapting Regulations and Policy to Platform Convergence," for National Broadcasting and Telecommunications Commission of Thailand in Bangkok.
2016	Delivered course "Utility Pricing," for LUCELEC, St. Lucia.
2016	Delivered online course "Your First 90 Days in Regulation."
2016 to 2017	Delivered workshops "Affecting the Strategic Context and Organizational Readiness" for Aqualectra, Curacao. Workshops, shadowing and retreats and coaching for senior management. Workshops for heads of departments.
2016	Delivered workshop "Assessing Social Impacts in a Comprehensive Regulatory Impact Analysis" for National Broadcasting and Telecommunications Commission of Thailand in Bangkok.
2015	Delivered workshop "Roles, Governance, and Political Context in Regulation" for Board of the Energy Regulatory Agency of Uganda in Kampala.
2015	Delivered workshop "Advanced International Practices Program for ERA – Benchmarking Infrastructure Operations" for Energy Regulatory Agency of Uganda in Kampala.
2015	Taught in workshop "Regulating Water Services Provision in MENA" for The World Bank's Center for Mediterranean Integration in Marseille, France.
2015	Delivered workshop "Comprehensive Regulatory Impact Analysis in Broadcasting" for National Broadcasting and Telecommunications Commission of Thailand in Bangkok.

2015	Delivered workshop "Best Practices in Telecoms, Broadcasting, and Postal Regulation" for Uganda Communications Commission in Kampala.
2014	Delivered workshop "Cost of Service Training Course for the Nation of Curacao" in Curacao.
2014	Delivered seminar on assessing competition in telecommunications markets in Bangkok, Thailand.
2014	Delivered Stakeholder Forum for the Caribbean Electric Utility Service Corporation in St. Lucia.
2014	Delivered workshop "PURC Regulatory Training Course for the Caribbean Electric Utility Service Corporation" in St. Lucia.
2014	Provided webinar on the evolution of U.S. natural gas markets and regulation for International Energy Investments, Inc.
2013	Delivered workshop "Training Program on Broadcasting Competition – A Course for the NBTC of Thailand" in Gainesville, Florida.
2013	Delivered seminars on leadership and on utility regulatory reforms at Garter Group symposium, Orlando, Florida.
2013	Delivered training videos on utility regulation and strategy for the Florida Public Service Commission, Tallahassee, Florida.
2013	Delivered workshop "Leadership and Management Skills for State Utility Regulators" in Tallahassee, Florida.
2013	Delivered workshop "Fundamentals of Utility Regulation" in Tallahassee, Florida.
2013	Delivered workshop "Telecom Policy and Regulation for Next Generation Networks for OFCA" in Hong Kong.
2012	Delivered workshop "Training Program on Infrastructure Sharing for Broadcasting: A Course for the NBTC of Thailand" in Gainesville, Florida.
2012	Delivered workshop "ARSESP Training Program on Regulating Utility Markets, Finances, Prices, and Services" in Sao Paulo, Brazil.
2011 to present	Co-direct PURC Advanced International Practices Program courses.
2008 to present	Co-direct PURC Leadership Workshops: One-day intensive training for emerging leaders in utility policy. Provide two workshops per year.
1997 to present	Direct PURC/World Bank International Training Program on Utility Regulation and Strategy, which has educated more than 3,000 government and industry officials from 152 nations.

2008 to 2011	Collaborated with CTIA – the Wireless Association® and the National Conference of State Legislatures (NCSL) to provide the Wireless U. Communications Policy Seminar for state policymakers in Tampa, Florida (2008), San Diego, California (2009), and San Francisco, California (2010).
2011	Delivered seminar "Regulating SOE's: A Leadership Approach" in Brasilia, Brazil.
2010	Delivered seminar "Competition Monitoring in the Telecommunications Market" in Bangkok, Thailand.
2010	Delivered workshop "Competition in Convergence Markets: Open Access and Financial Analysis" in Bangkok, Thailand.
2010	Delivered workshop "Competitive Analysis in Telecoms: Current and Future Markets" in Kampala, Uganda.
2010	Delivered workshop "Executive Leadership, Strategic Planning, and Organizational Development in Utilities Regulation" in Kampala, Uganda.
2010	Delivered workshop "Methods in Radio Spectrum Planning and Management" in Turks & Caicos.
2010	Delivered workshop "Providing Leadership in a Political Environment" in Turks & Caicos.
2010	Delivered workshop "Regional Forum and Workshop on Regulatory Reform in the Electricity Sector of the Caribbean" for CARILEC in St. Lucia.
2010	Delivered workshop "High Level Training on Regulatory Foundations" in Kigali, Rwanda.
2009	Delivered workshop "Regulatory Foundations Training Program for the Rwanda Utilities Regulatory Agency" in Gisenyi, Rwanda.
2009	Taught seminar "International Leader or International Leadership: The Art of Finding Your Role" in the International Affairs and the Public Sphere program at the Paris Research Center, University of Florida.
2009	Led sessions in Advanced Methods in Regulatory Pricing and Industry Analysis, Miami, Florida, co-sponsored by the Organisation of Caribbean Utility Regulators (OOCUR) and PURC.
2009	Taught seminar "Leadership in Energy and Climate Policy: Mobilizing for Action," at the National Association of Regulatory Utility Commissioners (NARUC) Winter Meetings, Washington D.C.
2009	Served as a discussant for the paper "Understanding International Broadband Comparisons" by Scott Wallsten at the Allied Social Science Associations/ Transportation and Public Utilities Group Annual Convention in San Francisco, California.

2008	Co-sponsored with Gee Strategies Group an Energy Policy Leadership Summit for the financial community and utility commissioners in Orlando, Florida.
2008	Collaborated with the Florida Chapter of the Federal Communications Bar Association to provide the seminar Communicopia: Market Dynamics in Telecommunications. Served as a moderator for "Communicopia Reprise: What Can We Take Away?" and as a panelist for "Regulatory Approaches: What Is Need for Universal Service, Intercarrier, Compensation, and Net Neutrality?" in Tallahassee, Florida.
2008	Served as moderator for the Digital Pathway to U.S. Economic Recovery and Prosperity Summit, hosted by the Emerging Issues Policy Forum, Miami, Florida.
2008	Led a workshop titled Basic Course on Regulatory Economics for Telecommunications for ANACOM to provide the National Communications Authority (ICP-ANACOM) staff with training on network economics and regulation in Lisbon, Portugal.
2005 to 2008	Collaborate with the Cambridge Leadership Associates to provide workshop modules as part of the Executive Development Series for Utility Commissioners for regulators from Caribbean, United States, and Bangladesh. Provided up to three workshops per year.
2007	Delivered a two-day workshop in the Turks and Caicos titled Basic Telecommunications Regulatory Training for regulatory and telecommunications professionals representing four telecommunications operators, the newly formed regulatory agency, and the government.
2007	Led sessions in Pricing and Analysis: An Advanced Course in Utilities Management and Regulation, Nassau, Bahamas, co-sponsored by the Organisation of Caribbean Utility Regulators (OOCUR) and PURC.
2007	Provided a two-week training program titled Advanced Methods in Radio Spectrum Planning and Management for senior executives and leading staff members of the Thailand National Telecommunications Commission in Gainesville, Florida.
2007	Provided a one-week training program for the Thailand National Telecommunications Commission in Cha Am, Thailand titled Basic Methods in Radio Spectrum Planning and Management.
2006	Conducted the PURC Fall Roundtable Apples-Apples or Apples-Oranges? Asymmetric Policies in Telecommunications.
2006	Delivered a training workshop Basic Course on Regulation for senior staff of the Telecommunications Authority of Trinidad and Tobago.
2006	Led sessions in Utility Ratemaking and Analysis: An Advanced Course in Regulation, Ocho Rios, Jamaica, co-sponsored by the Organisation of Caribbean Utility Regulators (OOCUR) and PURC.

2005	Conducted the PURC Fall Roundtable Who Should Regulate Telecommunications? Markets, Regulators, or Antitrust.
2005	Participated in executive team development for Bahamas Telecom Company.
2005	Provided training on price cap regulation, benchmarking, telecommunications interconnection, and dispute resolution for members of the Organization of Caribbean Utility Regulators at a program co-sponsored by the National Association of Regulatory Utility Commissioners and the United States Agency for International Development.
2004	Conducted seminar on utility regulation for the United States Agency for International Development.
2004	Conducted seminar on infrastructure investments for the World Bank.
2004	Conducted the PURC Fall Roundtable Is the Tail Wagging the Dog in Communications Policy?
2004	Wrote and provided seminar on telecommunications interconnection disputes for students of the University of West Indies.
2004	Developed and conducted workshop on telecommunications pricing and interconnection for the Uganda Communications Commission, as well as invited representatives from Nigeria, Rwanda, and Zambia.
2004	Developed and presented workshop on regulatory and telecommunications economics for the Nigerian Communications Commission.
2004	Joined with Cambridge Leadership Associates to provide a one-day workshop for the Florida City and County Managers Foundation on the dangers of leadership, developing leadership skills, and staying alive during adaptive work.
2003	Moderated workshop for the National Association of Regulatory Utility Commissioners Triennial Review Implementation Process Task Force.
2002	Provided workshop on telecommunications policy for the Agency for Telecommunications, Republic of Montenegro.
2001	Provided case study seminar on telecommunications competition for the Caribbean Association of National Telecommunication Organizations.
2001	Led two case studies for European telecommunications regulators and businesses in collaboration with the International Telecommunications Society in Ireland.
2001	Conducted workshop for telecommunications regulators and industry in Hong Kong in collaboration with the Hong Kong Office of Telecommunications Authority, Hong Kong University of Science and Technology, and Delft University of Technology.

2001, 1997	Conducted training program on principles of utility regulation, pricing, and cost measurement for the Florida Public Service Commission.
2000 - 2002	Developed training on economic regulation and institutional development for the Regulated Industries Commission of Trinidad and Tobago.
2000 - 2001	Provided distance learning on regulation of telecommunications for the National Regulatory Agency for Telecommunications and Informatics of Moldova.
2000 - 2001	Provided seminars on economic regulation and spectrum management for Ente Regulador de los Servicios Públicos of Panama.
2000	Conducted Latin American Forum on Communications for 28 communications ministers, deputy ministers, and regulatory commissioners from Latin America, in collaboration with Nortel Networks and *itFlorida*, with financial support from the Communications Competitiveness Research Initiative, *InfoDev* at the World Bank, USAID, Baker & McKenzie, Bell Canada, Western Wireless, Tel Pan/LatinNet, the Center for International Business Education and Research, and the Public Utility Research Center.
1999	Provided training on telecommunications globalization, network interconnection, competition, pricing, and universal service for the Massachusetts Department of Telecommunications and Energy.
1999	Conducted Caribbean Forum for Telecom Policy and Regulation for 30 government policy makers from the Caribbean, in collaboration with the Caribbean Telecommunications Union and the United States Agency for International Development.
1997	Organized and conducted workshop on universal service for the Florida House of Representatives, Utilities and Communications Committee.
1997	Provided training on utility regulation, pricing, incentive regulation, and competition for the Australian Competition and Consumer Commission.
1996 - 1997	Conducted two training programs on telecommunications interconnection pricing and cost studies for the Alabama Public Service Commission.

Presentations

Presentations at Research Conferences

"Adaptive Regulation" Presented at American Economic Association Conference, 2016, San Francisco, CA.

"Effects of Mergers on Incentives for New Technology Adoption" Presented at American Economic Association Conference, 2014, Philadelphia, PA.

"Are Public Utility and Common Carrier Proper Constructs for What Happens Next?" Presented at American Economic Association Conference, 2013, San Diego, CA.

"Execution and Leadership: Fulfilling Conflicting Responsibilities in Utility Regulation." Presented at the 19th International Telecommunications Society Biennial Conference 2012, Bangkok, Thailand.

"Mobile Voice and Data: Déjà Vu or Brave New World?" Presented at the 19th International Telecommunications Society Biennial Conference 2012, Bangkok, Thailand.

"Innovation, Resource Constraints, and Mergers in Network Industries." Presented at the Telecommunications Policy Research Conference, 2011, Arlington, VA. Presented at the Western Economic Association International Annual Conference, 2012, San Francisco, CA.

"U.S. and European Regulation: Converging, Colliding, or …?" Presented at the Annual Conference of the International Telecommunications Society of Europe, 2011, Budapest, Hungary.

"Reset for Regulation and Utilities: Leadership for a Time of Constant Change." Presented at the 2010 University of Florida Water Institute Symposium, 2010, Gainesville, Florida [with Araceli Castañeda].

"Towards New Regulatory Regimes in Globalized Infrastructures." Presented at the 12th Economics of Infrastructures Conference "Internationalization of Infrastructures," 2009, Delft University of Technology, The Netherlands.

"Mobile Broadband Adoption, Uses, and Effects." Presented at the National Communications Authority (ANACOM) and Organisation of Economic Co-operation and Development (OECD) Workshop, 2009, Lisbon, Portugal [with Janice Hauge and Mircea Marcu].

"Broadband and Contributions to Economic Growth: Lessons from the U.S. Experience." Presented at the Telecommunications Policy Research Conference, 36th Research Conference on Communication, Information and Internet Policy, 2008, Arlington, VA.

"Providing Stability While Leading Change." Presented at the Australian Competition and Consumer Commission's Ninth Regulatory Conference, 2008, Gold Coast, Australia.

"Getting What You Pay For: Analyzing the Net Neutrality Debate." Presented at the International Telecommunications Society 17th Biennial Conference, 2008, Montreal, Canada.

"Subsidies and Distorted Markets: Do Telecom Subsidies Affect Competition?" Presented at the International Telecommunications Society 17th Biennial Conference, 2008, Montreal, Canada.

"Subsidies and Distorted Markets: Do Telecom Subsidies Affect Competition?" Presented at the International Industrial Organization Society Conference, 2008, Washington, D.C.

"Getting What You Pay For: Analyzing the Net Neutrality Debate." Presented at the European Communications Policy Research (EuroCPR) Conference, 2008, Seville, Spain.

"Getting What You Pay For: Analyzing the Net Neutrality Debate." Presented at the Telecommunications Policy Research Conference on Communication, Information, and Internet Policy, 2007, Arlington, VA.

"Towards an Economic Model of Leadership." Presented at International Industrial Organization Society Conference, 2006, Boston, MA.

"Bureaucrats as Entrepreneurs: Do Municipal Telecom Providers Hinder Private Entrepreneurs?" Presented at Telecommunications Policy Research Conference, 2005, Arlington, VA.

"Quality-Improving Portfolio Effects in European Union Competition Policy." Presented at International Industrial Organization Society Conference, 2003, Boston, MA; and Western Economic Association International, 2003, Denver, CO.

"Incumbent and Entrant Incentives with Network Interconnection: The Case of U.S. Telecommunications." Presented at U.S. Department of Justice Workshop on Telecommunications Competition, 2002, Washington, DC; and International Telecommunications Society Biennial Conference, 2002, Seoul, South Korea.

"Competition in Networking: Research Results and Implications for Further Reform." Presented at Rethinking Access, Quello Center Conference, 2002, Washington, DC.

"Firm's Responses to Globalization and Convergence." Presented at International Telecommunications Society Asia-Pacific Conference, 2001, Hong Kong.

"Rivalry through Alliances: Competitive Strategy in the Global Telecommunications Market." Presented at International Telecommunications Society Asia-Pacific Conference, 2001, Hong Kong; and International Telecommunications Society European Conference, 2001, Dublin, Ireland [with Sylvia Chan-Olmsted].

"Network Externalities and Cross-Border Mergers in Network Industries." Presented at Corporate Control and Industry Structure in Global Communications co-sponsored by the London Business School and the University of Florida's Public Utility Research Center and Center for International Business Education and Research, 2001, London.

"Do Interconnection Policies Affect the Development of Telecommunications Competition? The Case in the U.S." Presented at International Telecommunications Society Biennial Conference, 2000, Buenos Aires, Argentina; and American Economic Association Meetings, 2001, Atlanta, GA.

"Impacts of Mergers and Global Rivalry on Local Network Competition." Presented at Telecommunications Policy Research Conference, 1999, Alexandria, VA; and International Telecommunications Society Biennial Conference, 2000, Buenos Aires, Argentina.

"Principles for Estimating Universal Service Costs." Presented at Telecommunications Policy Research Conference, 1997, Alexandria, VA.

"Pricing and Deregulation during Telecommunications' Transition to Competition." Presented at Consortium for Research on Telecommunications Policy Conference, 1996, Ann Arbor, MI; Annual Meeting of the American Law and Economics Association, 1996 Chicago, IL; and American Economic Association, 1997, Chicago, IL.

"A New Framework for Analyzing Monopoly Issues." Presented at Rutgers University 14th Annual Conference and Advanced Workshop in Regulation and Public Utility Economics, 1995, Mission Bay, CA.

"When does Cross-Subsidy Make Business Sense?" Presented at Consortium for Research on Telecommunications Policy Conference, 1995, Ann Arbor, MI.

"Sustainable Prices and Cross-Subsidization in Monopolies." Presented at Annual Conference of the Eastern Economic Association, 1994, Boston, MA; and Rutgers University Western Conference in Regulation and Public Utility Economics, 1994, Montego Bay, CA.

"Should Fixed Costs be Allocated?" Presented at American Economic Association Conference, 1990, Washington, DC.

Other Selected Presentations

"Emerging Institutional Weaknesses in US Regulation?" Presented at the Regulatory Policy 25th Anniversary Conference "The evolution of UK regulatory policy in retrospect: What has worked well? What hasn't worked well? What can be learned from the experiences?", Oxford, UK.

"Identifying Market Power in Times of Constant Change." Presented at the International Symposium on Telecom Regulations, July 18-19, 2016, Accra, Ghana.

"The Leadership Effect in Public Power: Smart Innovations for a Time of Constant Change." Presented with Araceli Castaneda at the Florida Municipal Electric Association Annual Conference, July 2015, in Palm Beach, Florida.

"Honouring the past – shaping the future?" Keynote address at the 2015 CAMPUT Conference, May 10-13, 2015, Calgary, Alberta Canada.

"Why Doesn't the Sunshine State have more Solar?" Presented at the University of Florida Levin College of Law 21st Annual Public Interest Environmental Conference, February 12 - 14, 2015, Gainesville, Florida.

"World Energy Markets and Regulation: Opportunities in the Gaps." Presented at the International Energy Investments Turkey Energy Summit 2014, June 2014, Istanbul, Turkey.

"World Energy Markets: Challenges for Leadership and Policy." Presented at TOBB University of Economics and Technology, June 2014, Ankara, Turkey.

"Regulating State-Owned Utilities: Information, Incentives and Governance." Presented at the 11th Annual Conference of the Organization of Caribbean Utility Regulators, November 2013, Belize City, Belize.

"The Economics of Best Practice Regulation." Presented at a meeting of the Caribbean Electric Utility Service Corporation, September 2013, Barbados.

"Consumer Engagement in Regulation: Panacea or Paralysis?" Presented at *Customer Involvement and Pricing*, ACCC/AER Regulatory Conference 2013, July 2013, Brisbane, Australia.

"The Regulator and Interconnection Standards: Four Rules for Renewables." Presented at *Energy Security: Real or Imaginary?* CARILEC Renewable Energy Forum 2012, September 2012, Bermuda. Presented at the National Association of Regulatory Utility Commissioners Winter Committee Meetings, 2013, Washington, D.C.

"Alternative Regulation for the Electric Industry." Presented to the Kansas Corporation Commission, February 2013, Topeka, Kansas.

"What is a Natural Monopoly in Regulation?" Presented at *Forum 2012*, Office of Utilities Regulation, November 2012, Kingston, Jamaica.

"Practicing Leadership in Regulation" Presented at *Forum 2012*, Office of Utilities Regulation, November 2012, Kingston, Jamaica.

"Identification of Challenges (from today's changing regulatory environment)." Presented at *The Challenges of a Changing Regulatory Environment*, Critical Consumer Issues Forum, NARUC Annual Convention, November 2011, St. Louis, MO.

"Developing Regulatory Institutions: A Leadership Perspective." Presented at *A Regulatory Framework: Making It Good for Everybody*, ASUC and Kolaborativa Symposium, May 2011, Curacao.

"Can We Get This Right? Power, Influence, and Motivations for Coherence." Presented at *Reviewing the Global Experience on Economic Regulation – A Forward Looking Perspective*, 2nd CUTS-CIRC International Conference, April 2011, New Delhi, India.

"A Tale of Two Broadband Strategies." Presented at the Florida Bar Association's symposium, September 2010, Tallahassee, FL.

"Leadership and the Independent Regulator." Presented at Thammasat University, September 2010, Bangkok, Thailand.

Keynote address on adaptive leadership. Northwestern Energy leadership retreat, August 2010, Anaconda, MT.

"Functions, Formulas and Fiction: Regulation in the Next 10 Years." Presented at the Fair Trading Commission's 6th Annual Lecture, March 2010, Barbados.

"OOCUR as a Network of Regulatory Agencies." Presented at the Multi-year Expert Meeting on Services, Development and Trade: The Regulatory and Institutional Dimension, sponsored by the United Nations, March 2010, Geneva, Switzerland (presented via video link).

"Reset for Regulation and Utilities: Leadership for a Time of Constant Change." Presented at the 7th Annual Conference of the Organization of Caribbean Utility Regulators, November 2009, Tobago.

"Net Neutrality and Innovation at the Edges." Presented at a seminar for Telecom Italia, October 2009, Rome, Italy.

"Utility Regulation Today: A Nexus of Technical, Political, and Leadership Skills." Presented at the World Forum on Energy Regulation IV, October 2009, Athens, Greece.

"Energy Policy." Presented at the First Annual Summit of the Florida Energy Systems Consortium, September 2009, Tampa, FL.

"Leadership and the Independent Regulator." Presented at the Universé Paris (Panthéon-Sorbonne) – Paris IV, September 2009, Paris, France.

"Reset for Regulation." Presented at Università degli Studi di Napoli Federico II, September 2009, Napels, Italy.

"Broadband and Economic Growth." Presented at the Annual Florida Association of Telecommunications Officers and Advisors Conference, June 2009, Tampa, FL.

"Leadership in Energy and Climate Policy: Mobilizing for Action." Presented at the National Association of Regulatory Utility Commissioners (NARUC) Committee on International Relations, February 2009, Washington D.C.

"How Far is Arm's-Length? Effects of Energy Prices and Politics on Regulatory Commissions." Presented at the Allied Social Science Associations/Transportation and Public Utilities Group Annual Convention, January 2009, San Francisco, CA.

"U.S. Experiences with Business Separation in Telecommunications." Presented main points of the paper to the Australian Competition and Consumer Commission; Australian Services Roundtable; Department of Innovation, Industry and Regional Development; Ovum; and the Office of Senator Stephen Conroy, Minister for Broadband, Communications, and the Digital Economy, 2008, Australia.

"How We Got Here: Lessons From History." Presented at the Wireless U. Communications Policy Seminar, 2008, Tampa, FL, and 2009, San Diego, CA.

"Too Successful to Succeed Toward an Adaptive Model of Firm Survival." Presented at a Department of Economics Seminar, University of North Texas, 2008, Dallas, TX.

"Tracking the Evolving Regulatory Environment." Presented at Doing Business with Africa: Practice, Issues and Potential conference, 2008, Tampa, FL.

"More than a Lifeline: Low-Income Households' Telecommunications Preferences." Presented to the Florida Public Service Commission, 2008, Tallahassee, FL.

"An ICT Driven World: Is This Reality Or Just Our Imaginations?" Presented keynote speech at Telecom Environment Management (TEM 2008) hosted by AOTMP, 2008, Orlando, FL.

"Bandwidth Driven Growth: Policy Essentials for Next Generation Development." Sponsored by the National Communications Authority (ICP-ANACOM), 2008, Lisbon, Portugal.

"Royal Dutch/Shell in Transition." Presented at the UF Center for International Business Education and Research, Multidisciplinary Research Workshop and to the UF International Business Society, 2007, Gainesville, FL.

"The Importance of Telecommunications Development." Presented as the keynote address at the 1st Academic Conference on the Auspicious Occasion of His Majesty King Bhumibol Adulyadej's 80th Birthday Anniversary, 2007, Bangkok, Thailand.

"Hurricane Hardening Research." Presented at the Louisiana Public Service Commission Distinguished Speaker Series, 2007, Baton Rouge, LA.

"Regulation for Next Generation Networks." Presented at the International Telecommunications Union Telecom World 2006 convention, 2006, Hong Kong, China.

"Discounting Telephone Service: An Examination of Participation in Florida's Lifeline Program Using Panel Data." Presented at Lingnan University, 2006, Hong Kong, China.

"Update on Lifeline Research in Florida." Presented at a Florida Public Service Commission workshop, 2006, Tallahassee, FL.

"Report on Lifeline Research in Florida." Presented to the National Association of Regulatory Utility Commissioners Consumer Affairs Committee, 2006, Washington, D.C.

"Telecoms Industry: Players, Structure, and Issues." Presented to Naylor Publications, Inc, 2006, Gainesville, FL.

"Using Leadership to Make Policy Work." Presented at the 3rd Annual Conference of the Organization of Caribbean Utility Regulators, 2005, Nassau, Bahamas.

"Leadership and the Independent Regulator." Presented at the World Bank, 2005, Washington, DC.

"Restructuring U.S. Networking." Presented at the Emerging Issues Policy Forum, 2005, Amelia Island, FL.

"Competition in Mobile Communications." Presented at the Committee on Consumer Affairs of the National Association of Regulatory Utility Commissioners, 2005, Washington, DC.

"Survival Guide for the Independent Regulator." Presented at the 2nd Annual Conference of the Organization of Caribbean Utility Regulators, 2004, Montego Bay, Jamaica.

"Mobile Paradigm in Developing Countries." Presented at the International Symposium on Advanced Radio Technologies, U.S. Department of Commerce, 2003, Boulder, CO.

"Regulating Telecommunications in the U.S." Presented before the Florida House Subcommittee on Telecommunications on February 4, 2003, and the Senate Committee on Communications and Public Utilities on March 11, 2003, Tallahassee, FL.

"International Telecom Regulation and Finances." Presented at the Michigan State University Institute of Public Utilities' Conference, 2002, Washington, DC.

"Players and Challenges in U.S. Telecommunications." Presented to Naylor Publications, Inc, 2002, Gainesville, FL.

"Where Would Darwin Place His Bet?" Keynote address at the Florida Telecommunications Industry Association Annual Meeting, 2002, Ponte Vedra, FL.

"Emerging Issues: Policy and Academic Overview." Presented at Convergence 2001, Amelia Island, FL.

"E-Business in Latin America and Developing Regions." Presented at the International Institute of Communications, 2000, Tampa, FL.

"Business Opportunities in Telecommunications and Energy." Presented at the Telergee CFO & Controller Conference, 2000, Tampa, FL.

"What has Telecommunications Reform Taught Us? Lessons for Energy Reform." Presented at the World Forum on Energy Regulation, 2000, Montreal.

"Competition and Technology." Presented at the Florida Communications Policy Symposium, 2000, Tallahassee, FL.

"Globalization, Consolidation, and Restructuring: Business and Regulatory Impacts." Presented at the PURC, Nortel Networks, and *itFlorida.com* Latin American Forum on Communications, 2000, Miami, FL.

"Synergy in the Information Revolution: Technology, Markets, and Policy." Presented at Nortel Network's Caribbean Senior Executive Forum, 1999, Coral Gables, FL.

"Other States' Programs for Enhancing Technology Business." Presented at *itFlorida* meeting, 1999, Coral Gables, FL.

"Technology Research Centers at Florida SUS Universities." Presented at *itFlorida* meeting, 1999, Orlando, FL.

"Telecommunications Transformation." Keynote address at the National Association of Consumer Agency Administrators 1999 Annual Conference, 1999, Sante Fe, NM.

"A New Framework for Thinking about Monopoly Markets." Presented at International Game Theory to Telecommunications Conference, 1995, Boulder, CO.

"Costs and Pricing in Advanced Information Infrastructure." Presented at Information Infrastructure Forum: The Economics of Information Infrastructure, Center for Science & International Affairs, Harvard University, 1994, Cambridge, MA.

"Impacts of Access Policies on Interexchange Competition." Presented at 25th Annual Conference of the Michigan State University Institute of Public Utilities, 1993, Williamsburg, VA.

"The FCC's Decision in CC Docket 86-111—Segregation of Costs between Regulated and Nonregulated Products and Services." Presented at NARUC Summer Committee Meetings, 1987, San Francisco, CA.

Professional Service

Present	Serve on Advisory Board of the *Regulatory Policy Institute*, Oxford University, Oxford, United Kingdom.
Present	Serve on Advisory Board for the journal *Competition and Regulation in Network Industries*.
Present	Referee/Reviewer for Kluwer Academic Publishers, MacArthur Foundation, *International Journal of Industrial Organization*, *The Information Society*, *Telecommunications Policy*, *Journal of Poverty*, and *Utilities Policy*.
2016 - 2017	Served on Transition Team for President-Elect Trump

2012	Served on Review Committee for papers at the International Telecommunications Society Biennial Conference, Bangkok, Thailand.
2011 - Present	Serve on Advisory Council for the *Harvard Business Review*.
2003 – 2017	Editorial Board, *Utilities Policy*
2011	Co-Chair for Policy, 2011 Florida Energy Systems Consortium Summit.
2011	Advisor for Honors Thesis, "The Determinants of Demand and Supply of U.S. Fuel Ethanol," by Elizabeth Rojas, College of Liberal Arts and Sciences, University of Florida.
2010	Served on Search Committee for Executive Director for the David F. Miller Retailing Education and Research Center, Warrington College of Business Administration, University of Florida.
2009	Serve as guest editor for the *Journal of Management and Governance*.
2008	Served on the Scientific Committee for the Public/Private Interplay Next Generation Communications Conference.
2005	Conducted research conference The Future of Broadband: Wired & Wireless? with London Business School.
2004 - 2005	Member of International Program Committee for the Hong Kong Mobility Roundtable.
2004	Conducted research conference Competition in Networking: Wireless and Wireline with London Business School.
2003 - 2005	Collaborated with Université de Toulouse and Pontificia Universidad Católica del Perú to develop for the World Bank a defined body of knowledge on the regulation of energy, telecommunications, and water sectors.
2003	Presented at workshops on telecommunications history and regulation for the Florida House Subcommittee on Telecommunications and Florida Senate Committee on Communications and Public Utilities.
2002 - 2005	Co-sponsored workshops on the economics of communications policy involving the Federal Communications Commission and Department of Justice staff. Other sponsors were the University of Florida's Public Policy Research Center and Michigan State University's Quello Center.
2002 - 2003	President (2003) and President-elect (2002) of the Transportation and Public Utilities Group.
2002 - 2003	Session organizer for the Transportation and Public Utility Group sessions on utility policy at the American Economic Association Annual Meetings.

1999 - 2003	Served as academic advisor for the 2000 and 2003 presentations of the World Forum on Energy Regulation.
2002	Presented at workshops on telecommunications competition for the Florida House of Representatives Utilities and Communications Committee and the Florida Senate Committee on Regulated Industries.
2002	Conducted research conference Competition in Wireless: Spectrum, Service, and Technology Wars with London Business School.
2001	Served as delegate in People to People Ambassador Program on business, economics, and trade with the People's Republic of China.
2001	Conducted research conference Corporate Control and Industry Structure in Global Communications with London Business School.
2001, 1999	Examined impacts of globalization and convergence in telecommunications on business strategy for Verizon.
2000 - 2001	Served on Advisory Board for WebBridge, an Internet company.
2000	Conducted Business and Investment Strategies in Latin American Infrastructure Markets with University of Tampa, with support from Nortel Networks, Sprint, AT&T, Lucent Technologies, White & Case LLP, TECO Energy, NERA Economic Consulting, Inter-American Development Bank, *itFlorida*, *Wireless Week*, *Latin American Newsletters*, Council of European Energy Regulators-Universidad Argentina de la Empresa, Enterprise Florida, *LatinFinance*, and Inter-American Telecommunication Commission/Organization of American States.
1999 - 2001	Served as Special Academic Advisor to the Chair of the Florida Governor's Information Services Technology Development Task Force.

Grants

2017	Charles Koch Foundation for research on adaptive capacity of organizations. ($45,400)
2015 - 2016	The World Bank for development of the Body of Knowledge on Infrastructure Regulation. ($247,000)
2014	Florida Energy Systems Consortium to develop course on economics of energy sustainability. ($58,000)
2013	International Cooperation Study Center (ICSC) at Thammasat University, Thailand for joint research to study updating of competitive analysis in telecommunications markets. ($40,000)
2012 - 2016	National Science Foundation for Sustainable Energy Pathways to investigate barriers to adoption of solar technologies in developing countries. ($192,500)

2012	Florida Public Service Commission on whether Florida Energy Efficiency and Conservation Act remains in public interest. ($146,000)
2010 - 2011	Florida Department of Management Services on governmental procurement of broadband services.
2009 - 2011	Florida Energy Systems Consortium for research on energy policies and job creation.
2006 - 2009	Florida's electric utilities for coordination of research in the area of hardening the electric infrastructure to better withstand and recover from hurricanes. Projects in this effort included (1) research on undergrounding existing electric distribution facilities by surveying the current literature, performing case analyses of Florida underground projects, and developing a model for projecting the benefits and costs of converting overhead facilities to underground; (2) data gathering and analyses of hurricane winds in Florida and the possible expansion of a hurricane simulator that can be used to test hardening approaches; and (3) an investigation of effective approaches for vegetation management.
2003 - 2009	The World Bank for development of the Body of Knowledge on Infrastructure Regulation.
2008	Review of Multisector Regulatory Agency in five African countries for Hellerstein & Associates.
2008	AT&T and Embarq for a study of low-income households' enrollment in the Lifeline program and how low-income households use communications services.
2007 - 2008	International Cooperation Study Center (ICSC) at Thammasat University, Thailand for joint research to study competition monitoring in the telecommunication market.
2005	BellSouth and Sprint for research on universal service subsidy system in Florida.
2005	The World Bank for a literature review on risk mitigation.
2004	Net Institute for research on network operators' choices of network and interconnection quality.

Personal Development

Global Energy, Harvard Business School, 2011.

Leadership for the 21st Century, Harvard Kennedy School of Government, February 2010.

Next Level Leadership, University of Florida, 2008-2009.

The Art and Practice of Leadership Development, Harvard Kennedy School of Government, April 2003.

The Art and Craft of Discussion Leadership, Harvard Business School, December 2000.

Consulting

The World Bank on training for water utility regulator in Egypt, 2017.

Optym leadership consulting, 2016.

Google on potential regulation, 2012.

Northwestern Energy on leadership development, 2010.

ANACOM on broadband penetration, 2009.

BATELCO on leadership development, 2005.

The World Bank on telecommunications reforms in Africa, 1999-2001.

Other Professional Affiliations and Activities

Affiliated Scholar, Communications Media Center at New York Law School. Contributor to American Enterprise Institute's *TechPolicyDaily.com*. Member of American Economic Association, Industrial Organization Society, International Telecommunications Society, and the Leader to Leader Institute. Member of Transition Team for President Trump.